DRAFT BOARD OPTION 1 (REVISED 4/16/07)

STATIONARY SOURCE PERMIT TO OPERATE

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Mirant Corporation
8711 Westphalia Road
Upper Marlboro, MD 20774
Registration No.: 70228

is authorized to operate

an electricity generating facility

located at

1400 North Royal Street
Alexandria, VA 22314

in accordance with the Conditions of this permit.

Approved on DRAFT.

Director, Department of Environmental Quality

Permit consists of 12 pages.
Permit Conditions 1 to 21.

INTRODUCTION

This permit approval is based on the permit application dated April 9, 2007. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action. In addition, this facility may be subject to additional applicable requirements not listed in this permit.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-20 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

1. **Equipment List** - Equipment at this facility consists of the following:

Equipment to be modified			
Reference No.	**Equipment Description**	**Maximum Rated Capacity**	**Manufactured Date**
C1	Combustion Engineering, natural circulation, tangentially coal-fired with superheater and economizer with low NO_x burners.	970.1 mmBtu/hr	1949
C2	Combustion Engineering, natural circulation, tangentially coal-fired with superheater and economizer with low NO_x burners.	970.1 mmBtu/hr	1950
C3	Combustion Engineering, natural circulation, tangentially coal-fired with superheater and economizer with low NO_x burners and over fired air.	960.7 mmBtu/hr	1954
C4	Combustion Engineering, natural circulation, tangentially coal-fired with superheater and economizer with low NO_x burners and over fired air.	960.7 mmBtu/hr	1956
C5	Combustion Engineering, natural circulation, tangentially coal-fired with superheater and economizer with low NO_x burners and over fired air.	960.7 mmBtu/hr	1957
Trona Handling	Pneumatic upload system, full enclosure	n/a	n/a

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.
(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

2. **SO_2 Emission Controls** – SO_2 emissions from boilers C1, C2, C3, C4, and C5 shall be controlled by the use of low sulfur coal and trona injection. The permittee shall maintain and operate a trona injection system on all five units at the facility. The permittee shall inject trona into the exhaust stream of each unit while the unit is operating.
(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

3. **Monitoring** – A Continuous Opacity Monitoring System (COMS) shall be installed to measure and record the opacity of emissions from the stacks of boilers C1, C2, C3, C4, and C5. The monitors shall be maintained and calibrated in accordance with 9 VAC 5-40-41 of State Regulations.
(9 VAC 5-80-850, 9 VAC 5-40-40, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

4. **Monitoring** – A Continuous Emission Monitoring System (CEMS) and a flow monitoring system, each with an automated data acquisition and handling system, shall be installed to measure and record the emissions of SO_2 from boilers C1, C2, C3, C4, and C5. The automated data acquisition and handling systems shall measure and record SO_2 concentration (in ppm), volumetric gas flow (in scfh), and SO_2 mass emissions (in lbs/hr) discharged to the atmosphere. The CEMS shall be installed, certified, operated, and maintained according to approved procedures in accordance with the provisions of 40 CFR Part 75. The permittee shall utilize measured and recorded CEMS data to calculate short-term SO_2 emissions in pounds per million Btu, pounds per hour, and pounds per day; and annual SO_2 emissions in tons per year. Hourly SO_2 emissions in pounds per hour shall be calculated hourly as the average of each consecutive 3-hour period. Hourly SO_2 emissions in pounds per million Btu shall be calculated as the average of each block 3-hour period and as the average of each block 24-hour period beginning at 12:01 AM each calendar day. Daily SO_2 emissions in pounds per day shall be calculated daily as the sum of hourly emissions for each block 24-hour period beginning at 12:01 AM each calendar day. Annual SO_2 emissions shall be calculated monthly as the sum of each consecutive 12-month period. Calculations shall be maintained on-site for the most recent 5-year period and shall demonstrate compliance with the emission limitations set forth in Conditions 9 and 10.
(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

5. **Ambient Air Monitoring** – The permittee shall continue operate the six (6) existing SO_2 monitors to measure and record the concentration of SO_2 from the stacks of boilers C1, C2, C3, C4, and C5. The monitors shall be operated, maintained, and subject to the appropriate QA/QC provisions as set forth in Appendix A of 40 CFR Part 58.
(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

OPERATING LIMITATIONS

6. **Fuel** - The approved fuels for boilers C1, C2, C3, C4 and C5 are coal and distillate oil. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

7. **Fuel** - The coal and distillate oil shall meet the specifications below:
COAL**:**
Maximum heat content: 12,800 Btu/lb HHV
as determined by ASTM D2015, D3286, or a DEQ-approved equivalent method.

Maximum sulfur content per shipment: 0.9 %
as determined by STM D3177, D4239, or a DEQ-approved equivalent method

Maximum ash content per shipment: 11.0%
as determined by ASTM D3174, or a DEQ-approved equivalent method.

DISTILLATE OIL which meets the ASTM D396 specification for numbers 1 or 2 fuel oil:
Maximum sulfur content per shipment: 0.8%

(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

8. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of coal and distillate oil. Each fuel supplier certification shall include the following:

   a. The name of the fuel supplier;

   b. The date on which the coal or distillate oil was received;

   c. The quantity of coal or distillate oil delivered in the shipment;

   d. A statement that the distillate oil complies with the American Society for Testing and Materials specifications (ASTM D396) for numbers 2 fuel oil;

   e. The sulfur content of the coal or distillate oil;

   f. Documentation of sampling of the coal or distillate oil indicating the location of the fuel when the sample was taken; and;

   g. The methods used to determine the sulfur and ash contents of the coal;

   Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by DEQ may be used to determine compliance with the fuel specifications

stipulated in Condition 6. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

EMISSION LIMITS

9. **Boiler Emission Limits** – SO_2 emissions from the operation of boilers C1, C2, C3, C4, and C5 shall not exceed the limits specified below:

Scenario	Units On	Operating Hours	*Averaging Period*	*SO_2 Rate (lb/MMBtu)*▲	*SO_2 Rate (lb/hour)**	*SO_2 Rate (lb/day)***
1a	3 & 4	Both Units @ 16 hrs max/ 8 hrs min	3-hour	0.38	800	15,150
			24-hour	0.46		
1b	3 & 4	Both Units @ 12 hrs max/ 12 hrs min	3-Hour	0.38	800	13,126
			24-Hour	0.50		
2a	3 & 5	Both Units @ 16 hrs max/ 8 hrs min	3-Hour	0.43	914	17,281
			24-Hour	0.63		
2b	3 & 5	Both units @ 12 hrs max/ 12 hrs min	3-Hour	0.43	914	14,956
			24-Hour	0.54		
3a	4 & 5	Both Units @ 16 hrs max/ 8 hrs min	3-Hour	0.42	921	17,401
			24-Hour	0.64		
3b	4 & 5	Both units @ 12 hrs max/ 12 hrs min	3-Hour	0.42	921	15,044
			24-Hour	0.55		
4a	1,2,3	Units 1,2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 3 @ 16 hrs max/ 8 hrs min	3-Hour	0.35	1,085	15,274
			24-Hour	0.44		
4b	1,2,3	Units 1,2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 3 @ 12 hrs max/ 12 hrs min	3-Hour	0.35	1,085	15,035
			24-Hour	0.49		
5a	1,2,4	Units 1,2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 4 @ 16 hrs max/ 8 hrs min	3-Hour	0.36	1,141	16,158
			24-Hour	0.45		
5b	1,2,4	Units 1,2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 4 @ 12 hrs max/ 12 hrs min	3-Hour	0.36	1,141	15,838
			24-Hour	0.49		
6a	1,2,5	Units 1,2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 5 @ 16 hrs max/ 8 hrs min	3-Hour	0.40	1,240	17,456
			24-Hour	0.59		

6b	1,2,5	Units 1,2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 5 @ 12 hrs max/ 12 hrs min	3-Hour	0.40	1,240	17,182
			24-Hour	0.49		
7a	3,4,5	All units @ 16 hrs max/ 8 hrs min	3-Hour	0.28	899	17,008
			24-Hour	0.39		
7b	3,4,5	All units @ 12 hrs max/ 12 hrs min	3-Hour	0.28	899	14,720
			24-Hour	0.35		
7c	3,4,5	All units @ 8 hrs max/ 16 hrs min	3-Hour	0.28	899	12,432
			24-Hour	0.32		
8a	1	8 hrs max/ 8 hrs min/ 8 hrs off	3-Hour	1.25	1,316	15,430
			24-Hour	1.71		
8b	1	16 hrs max/ 8 hrs off	3-Hour	1.24	1,306	20,892
			24-Hour	1.66		
9a	2	8 hrs max/ 8 hrs min/ 8 hrs off	3-Hour	1.01	1,039	12,104
			24-Hour	1.47		
9b	2	16 hrs max/ 8 hrs off	3-Hour	0.96	988	15,805
			24-Hour	1.46		
10a	3	12 hrs max/ 12 hrs min	3-Hour	0.75	764	12,564
			24-Hour	0.98		
10b	3	16 hrs max/ 8 hrs min	3-Hour	0.75	764	14,484
			24-Hour	0.91		
11a	4	12 hrs max/ 12 hrs min	3-Hour	0.79	859	14,054
			24-Hour	1.02		
11b	4	16 hrs max/ 8 hrs min	3-Hour	0.79	859	16,239
			24-Hour	0.96		
12a	5	12 hrs max/ 12 hrs min	3-Hour	0.80	886	14,424
			24-Hour	1.06		
12b	5	16 hrs max/ 8 hrs min	3-Hour	0.80	886	16,701
			24-Hour	1.37		
13a	1,2	Both units 8 hrs max/ 8 hrs min/ 8 hrs off	3-Hour	0.55	1,145	13,380
			24-Hour	0.79		
13b	1,2	Both units 16 hrs max/ 8 hrs off	3-Hour	0.54	1,124	17,988
			24-Hour	0.77		

14a	1,3	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Unit 3 @ 12 hrs max /12 hrs min	3-Hour	0.49	1,015	14,257
			24-Hour	0.72		
14b	1,3	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 3 @ 16 hrs max/ 8 hrs min	3-Hour	0.49	1,015	15,511
			24-Hour	0.61		
15a	1,4	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Unit 4 @ 12 hrs max /12 hrs min	3-Hour	0.51	1,091	15,368
			24-Hour	0.71		
15b	1,4	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 4 @ 16 hrs max/ 8 hrs min	3-Hour	0.51	1,091	16,779
			24-Hour	0.63		
16a	1,5	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Unit 5 @ 12 hrs max /12 hrs min	3-Hour	0.60	1,296	18,224
			24-Hour	0.74		
16b	1,5	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 5 @ 16 hrs max/ 8 hrs min	3-Hour	0.60	1,296	19,932
			24-Hour	0.93		
17a	2,3	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Unit 3 @ 12 hrs max /12 hrs min	3-Hour	0.45	921	12,931
			24-Hour	0.65		
17b	2,3	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 3 @ 16 hrs max/ 8 hrs min	3-Hour	0.45	921	14,083
			24-Hour	0.58		
18a	2,4	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Unit 4 @ 12 hrs max /12 hrs min	3-Hour	0.48	1,016	14,292
			24-Hour	0.65		
18b	2,4	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 4 @ 16 hrs max/ 8 hrs min	3-Hour	0.48	1,016	15,619
			24-Hour	0.60		
19a	2,5	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Unit 5 @ 12 hrs max /12 hrs min	3-Hour	0.56	1,196	16,808
			24-Hour	0.65		
19b	2,5	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off; Unit 5 @ 16 hrs max/ 8 hrs min	3-Hour	0.56	1,196	18,402
			24-Hour	0.85		
20	1,3,4	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Units 3,4 @ 12 hrs max /12 hrs min	3-Hour	0.30	947	14,066
			24-Hour	0.42		
21	1,3,5	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Units 3,5 @ 12 hrs max /12 hrs min	3-Hour	0.33	1,049	15,552
			24-Hour	0.44		

22	1,4,5	Unit 1 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Units 4,5 @ 12 hrs max /12 hrs min	3-Hour	0.34	1,104	16,376
			24-Hour	0.43		
23	2,3,4	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Units 3,4 @ 12 hrs max /12 hrs min	3-Hour	0.29	909	13,493
			24-Hour	0.41		
24	2,3,5	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Units 3,5 @ 12 hrs max /12 hrs min	3-Hour	0.32	1,009	14,965
			24-Hour	0.41		
25	2,4,5	Unit 2 @ 8 hrs max/ 8 hrs min/ 8 hrs off, Units 4,5 @ 12 hrs max /12 hrs min	3-Hour	0.33	1,064	15,775
			24-Hour	0.39		

*Calculated hourly as the average of each consecutive 3-hour period.
** Daily SO_2 emissions in pounds per day shall be calculated as the sum of hourly emissions for each block 24-hour period beginning at 12:01 AM each calendar day.
▲3-hour SO_2 emissions in pounds per million Btu shall be calculated as the average of hourly emissions for each block 3-hour period beginning at 12:01 AM each calendar day; 24-hour SO_2 emissions in pounds per million Btu shall be calculated as the average of hourly emissions for each block 24-hour period beginning at 12:01 AM each calendar day.

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition 4. (9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

10. **Facility wide Emission Limits** - Total annual emissions of SO_2 from boilers C1, C2, C3, C4, and C5 (combined) shall not exceed the limits specified below:

	Annual (tons per year)**
Boilers C1, C2, C3, C4, and C5 (combined)	3,813

**Calculated monthly as the sum of each consecutive 12-month period.

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition 4. (9 VAC 5-80-850, 9 VAC 5-80-800.C.2, 9 VAC 5-80-820.D, and 9 VAC 5-50-260)

11. **Operating Scenarios** – Upon issuance of this permit, each calendar day the permittee shall identify and record the next calendar day's projected operating scenario(s) and shall record in a logbook the previous calendar day's actual operating scenario(s) in accordance with the scenarios outlined in Condition 9 of this permit. The logbook shall be maintained on-site for the most recent five (5) year period and shall be made available for inspection.
(9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

12. **Visible Emission Limit** - Visible emissions from the boilers C1, C2, C3, C4, and C5 shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-80-850, 9 VAC 5-50-80, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

RECORDS

13. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Northern Virginia Region Office. These records shall include, but are not limited to:

    a. All fuel supplier certifications.

    b. Emissions calculations and CEMS data for SO_2 from the boilers using calculation methods approved by the Northern Virginia Regional Office to verify compliance with the lbs/mmBtu, lbs/hour, and tons/year emission limitations in Conditions 9 and 10.

    c. CEMS, COMS, and SO_2 ambient air monitor maintenance and calibration records.

    d. All recorded COMS and SO_2 ambient air monitoring data.

    e. Daily records of operating scenarios under which the facility operated for each calendar day.

    f. Scheduled and unscheduled boiler maintenance and operator training.

    These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
    (9 VAC 5-80-850, 9 VAC 5-50-50, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

NOTIFICATIONS

14. **Notifications** - The permittee shall furnish written notification to the Northern Virginia Regional Office of:

    a. The anticipated dates of any continuous monitoring system performance evaluations performed in accordance with 40 CFR Part 75 postmarked not less than 30 days prior to such date.

    (9 VAC 5-50-50, 9 VAC 5-80-850, 9 VAC 5-80-800.C.2 and 9 VAC 5-80-820.D)

GENERAL CONDITIONS

15. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

    a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

    b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

    c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

    d. To sample or test at reasonable times.

    For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.
    (9 VAC 5-170-130 and 9 VAC 5-80-850)

16. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Northern Virginia Regional Office of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone, or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Northern Virginia Regional Office in writing.
    (9 VAC 5-20-180 C and 9 VAC 5-80-850)

17. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I and 9 VAC 5-80-850)

18. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, soot blowing, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

    The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to boilers C1, C2, C3, C4, and C5.

    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

    b. Maintain an inventory of spare parts.

    c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

    d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

    Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
    (9 VAC 5-50-20 E and 9 VAC 5-80-850)

19. **Permit Suspension/Revocation** - This permit may be revoked if the permittee:

    a. Knowingly makes material misstatements in the permit application or any amendments to it;

    b. Fails to comply with the terms or conditions of this permit;

    c. Fails to comply with any emission standards applicable to a permitted emissions unit;

    d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;

e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time that an application for this permit is submitted;

f. Fails to comply with the applicable provisions of Articles 6, 8 and 9 of 9 VAC 5 Chapter 80.
(9 VAC 5-80-1010)

20. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Northern Virginia Regional Office of the change of ownership within 30 days of the transfer.
(9 VAC 5-80-940)

21. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
(9 VAC 5-80-860 D)